degree of palliation sufficiently greater than that following blood transfusion. It has been found in at least one-third of the cases that the average life of the patients is greatly prolonged, while in about 10 per cent the prolongation is sufficient to lead to the hope that cures may result in some cases. Apparently removal of the spleen stops red-blood cell destruction but does not greatly affect the disease otherwise. Many observers have expressed the belief that toxic materials from the gastro-intestinal tract are the cause of pernicious anemia, and if this be true the probable location of this absorption would be in the proximal half of the large intestine. Experience with a large number of resections for relief of such patients has shown a comparatively low mortality and a high percentage of permanent cures.

PEDIATRICS

UNDER THE CHARGE OF

THOMPSON S. WESTCOTT, M.D., AND ALVIN E. SIEGEL, M.D.,

OF PHILADELPHIA.

The Effect of Compressed Yeast Cake in Infant-feeding.—LADD (*Arch. Ped.*, December, 1921) says that the general statement may be accepted that food for an infant must have three known vitamines, fat-soluble A, water-soluble B and antiscorbutic, and these must be present in sufficient amounts. It is just as important to have sufficient amounts of fats, carbohydrates and proteins, mineral matter and water to meet the individual needs. The writer states that infant feeding has reached a point that it is a rare exception that a normal baby cannot be successfully reared on cows' milk when properly adapted to the needs of the infant. A large amount of experimental feeding has been carried out on the lower animals to determine the part played by these three vitamines in the general problem of nutrition, and there have resulted many valuable suggestions to the principles of infant feeding. Osborne and Mendel have shown very clearly that their experimental rats fail to show normal growth gain on milk, but that a small amount of yeast promoted normal growth. In the 10 cases studied by the writer the problem was to determine whether the addition of such an accessory as yeast, which is presumably rich in water-soluble B vitamine, would favorably influence the development of infants in the first year, or undernourished babies in the second year, the other factors being managed along lines of rational feeding. As a result of the observations it was found that only 2 out of the 10 cases showed an increased rate of gain when yeast was incorporated in the food and in these other factors in the food probably accounted for the difference. In the other 8 cases the yeast was apparently inert, with one exception that when given raw it produced a definite fermental diarrhea. There was no clinical evidence that the appetite or general condition of the child was better during the period of time when the yeast was given.

The Serum Prophylaxis of Measles.—McNeal (*Jour. Am. Med. Assn.*, February 4, 1922), in a small epidemic, injected serum taken from donors who were free of tuberculosis and syphilis, and had passed through fairly severe attacks of measles without complications or sequelæ. Sixteen children exposed to measles received intramuscular injections of 5 cc of serum obtained as noted above five to nine days after the disappearance of the fever. Twelve of the 16 children injected remained free from measles and 4 developed a mild form of the disease. One child developed measles after two months successful injection, which suggested that the immunity does not persist longer than sixty days in some cases. The method recommends itself most highly for the prevention of measles during the period of danger, between the ages of five months and six years, in tuberculous children and in those physically below normal. In institutions in which large numbers of frail children are intimately associated the procedure should be of great value. A marked attenuation of the disease with permanent immunity, but without complications or sequelæ would seem to be even more advantageous than the absolute protection.

A Dietary Consideration of Eczema in Younger Children.—O'Keefe (*Jour. Am. Med. Assn.*, February 18, 1922) indicates that eczema is more and more considered to be not entirely a skin disease, but rather a systemic condition whose chief manifestation is chiefly cutaneous. He says that faulty digestion of protein with consequent absorption in an undigested state is the most striking common feature in these cases of eczema. He says that the sensitization of the nursling does occur through foreign proteids ingested with breast milk. The aim of treatment should be to secure complete digestion of the ingested protein, either by improving the digestive function or by limiting the intake of the offending protein. An analysis of the results of this treatment, combined with external remedies, showed that 17 of the 41 patients had been relieved of their trouble entirely. In 14 of this 17 the time elapsing between the beginning of the treatment and the clearing of the skin could be definitely determined. In the exclusively breast-fed there was an apparent cure in 40 per cent and a definite cure in about 20 per cent following the omission or limiting of certain articles of food in the maternal diet.

Is There More than One Kind of Rickets?—Shipley, Park, McCollum and Simmonds (*Am. Jour. Dis. Children*, February, 1922) say that their experiments make it clear that when the rat is deprived of certain active light rays and unidentified factors contained in cod-liver oil a pathological condition corresponding to rickets in human beings, in all the fundamental respects, can be produced through the diet. This can be done in two ways: The phosphorus may be diminished and calcium may be supplied in the optimal quantities or in excess. Another way is by reducing the calcium and maintaining the phosphorus at a concentration near the optimum. They believe it to be certain that in the human being similarly deprived of light and the unidentified factor it would also be possible to produce true rickets through an adjustment of the calcium and the phosphorus of the diet in the two ways mentioned. As a result of their experiments they are led to believe that there are two main kinds of rickets: One is characterized by a normal or nearly normal blood calcium and a low blood phosphorus, which may be called a "low-phosphorus rickets." The other is characterized by a normal or nearly normal blood phosphorus, but a low-blood calcium, and may be called "low-calcium rickets." If the hypothesis is correct the relation of tetany to rickets would appear to be essentially an expression on the part of the nervous tissues of an insufficiency of the calcium ion. Rickets is essentially an expression on the part of the skeleton of disturbed relation between the calcium and phosphate ions in the body fluids. Tetany is frequently associated with rickets because rickets is a disease in which the calcium ion in the body tissues and fluids is subject to variation. Tetany occurs independently of rickets, just as rickets may occur independently of tetany. Since tetany may occur with the low-phosphorus form of rickets, it does not serve to differentiate one from the other. Tetany is essentially associated with the low-calcium form of rickets and for all practical purposes the low-calcium form is the rickets of tetany. It seems possible that the etiology of rickets may be as varied as the etiology of tetany. Their experiments suggested that in the absence of certain active light rays and an unidentified dietary factor contained in cod-liver oil any influence which would result in the depression of the calcium or phosphate ions in the body fluids, with the formation of calcium-phosphate ratios favorable for the development of rickets, would ultimately produce the disease. There may be several influences. As the result of clinical observations concerning curious associations of rickets with other pathological conditions, and certain peculiar manifestations of the disease in some children, there is a possibility that there may be a true renal rickets, and that the rickets accompanying the alimentary anemias may represent a somewhat different form of the disturbance in metabolism from what is present in the ordinary forms of the disease.

The Value of the Routine Use of the Colloidal-gold Reaction in Acute Epidemic Poliomyelitis.—REGAN and CHENEY (*Am. Jour. Dis. Children,* February, 1922) performed this test on 74 spinal fluids from 21 cases of this disease. The fluid was examined at intervals varying from the fourth to the one hundred and twenty-third day. The predominant type of the malady was the myelitic with a high proportion of cases presenting symptoms of moderate or marked polyneuritis. The curves obtained were classified according to the week of the disease in which the spinal fluids were taken. It was found that there was always a reaction with colloidal-gold solution in the case of every poliomyelitic fluid examined during the acute stage of the disease. The average curves for the first and second weeks of the disease were very similar, presenting a graduated increase in the reduction of ascending dilutions of spinal fluid, starting in the reddish-blue area in 1:10, extending into the lilac or purple area in 1:40 to 1:80, and then descending somewhat more abruptly in the reddish-blue in 1:160 and reaching the non-reducing or red color at 1:640. In the latter weeks of the malady the average curve gradually subsided, reading normal in a minor proportion of cases, 3 out of 10, by the eighth or ninth week; while in the remaining 70 per cent, or 7 cases, the curve remained elevated at the ninth week. In 2 cases, 1 in the fourteenth and the other in the eighteenth week, the curve was still elevated in both. In 1 chronic case they found the typical curve still present five years after the initial attack, but the history indicated several relapses. Of the 3 cases, in which the curve reached normal before the end of the eighth week, this occurred on the twenty-eighth, fifty-third and fifty-fifth days respectively. When the curve had once reached normal it was not elevated again in the 3 cases studied. Cases presenting a persistence of the very acute curve of the first few weeks up into the ninth week or beyond commonly presented at this time either considerable residual paralysis with slight, moderate or marked polyneuritis, or else slight paralysis with a polyneuritis of a marked type. A definite persistence of the acute hydrocephalus usually remains in these cases. There seems to be a relationship between the duration of the positive colloidal-gold curve and the acute inflammatory stage of the disease, so that when the reduction of gold chloride becomes normal, the acute period is over. This is important from the standpoint of active therapeutic measures for the subacute stage. With gradual subsidence of the colloidal-gold curve there is usually a corresponding improvement in the general condition of the patient in the paralysis and meningeal symptoms. This relationship does not always hold true, and in patients with marked polyneuritis the curve may remain elevated after the subsidence of the paralysis. There was no close relationship between cytology and chemistry of the spinal fluid and the colloidal-gold reaction.

Colic in Breast-fed Babies as a Result of Sensitization to Foods in the Mother's Dietary.—SHANNON (*Arch. Ped.*, December, 1921) cites a number of cases illustrating his contention that elements in the diet of the mother may be the cause of colic in the offspring because of some peculiar susceptibility of the baby to certain foods. He points out that the mother's milk transmits foods that the mother eats, and that these foods may produce disturbances in the infant. Persistent colic in breast-fed babies is frequently due to sensitization to foods that the mother eats, and which comes to the infant through the breast milk. Removal of these foods from the diet of the mother will frequently result in permanent cure of the colic. Food allergy is a rational basis for explanation of the well-known statement that all breast milk is not the best food for every baby. The fact that one infant will thrive on breast milk that another cannot tolerate is explained on the basis of allergy to foods contained in the breast milk. Recognition and application of these principles will result in the prevention of considerable suffering in the baby and occasionally will remove the necessity of too early weaning from the breast.

Excess Protein and Mammary Secretion.—HARTWELL (*Biochem. Jour.*, 1921, vol. xv) had observed previously that a diet containing 40 per cent protein by dried weight fed to nursing rats was detrimental to the young, and in this study he confirms that observation. He also found that the same result ensued from commercial edestin, blood and egg albumin, gelatin and home-made gluten. Such dietaries apparently render the milk poisonous, and finally checks its flow.

Home-made fish and meat protein do not always cause such harmful results as edestin, albumin and gelatin, but in some cases the litters died with typical symptoms. In others the baby rats survived, but only a few were normal. In spite of the ultimate ill effect of edestin and caseinogen, the immediate results of its addition to bread was to produce a maximal growth curve of the young. Other proteins produced slower growth. Toxicity was not shown for ten to eleven days. The toxicity of the mother's milk was demonstrated by spasms and allied symptoms. The cessation of the flow of the milk was shown by the litter's loss of weight, and the symptoms of a like nature and by the emptiness of the alimentary tracts. There was some correlation between increase in the weight of the mother and danger to the offspring. When the mother put on weight the sucklings suffered. As regards gelatin, it caused loss of weight of the mother and the offspring died. It seemed unlikely that an absence of vitamines was the cause of this, because a rat can bring up a healthy litter on a diet of white bread alone.

OBSTETRICS

UNDER THE CHARGE OF

EDWARD P. DAVIS, A.M., M.D.,

PROFESSOR OF OBSTETRICS IN THE JEFFERSON MEDICAL COLLEGE, PHILADELPHIA.

Heart Disease Complicating Pregnancy.—Werner (*Arch. f. Gynäk.*, 1921, cv, 41) has studied 7626 cases of pregnancy and labor to determine the frequency and the history of diseases of the heart. Among these were found 67 cases of heart lesions, of which 63 were valvular; 4 showed extensive changes in the heart and alteration in the ascending aorta. Of these 67 cases, 31 were uncomplicated mitral insufficiency, 12 were uncomplicated mitral stenosis, 19 were mitral insufficiency combined with mitral stenosis and 5 were other varieties of heart lesions—including those of the aortic orifice. An effort was made to trace the history of these patients after they left the Clinic, but it was possible in only 12 of the cases. The mortality was 4.5 per cent among the 67 cases. To illustrate the important conditions in these cases the writer gives the history of a primipara, aged twenty-five years, who at nine and nineteen years had inflammation of the joints and disturbed respiration. She came to the clinic in the second month of pregnancy with disturbance of breathing, slightly enlarged liver and spleen and slight icterus. After two weeks' treatment in the hospital she was very much improved, but after leaving hospital she grew worse; it was finally necessary to produce therapeutic abortion. A year and a half after she was examined, when it was found that she had a mitral stenosis (not fully compensated) with moderate cyanosis, slight jaundice and enlargement of the liver. The case illustrates the subsequent history of this patient and how a temporary improvement, produced by rest and drugs, rarely continues for any length of time.